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ABSTRACT

Howard Gardner's theory of multiple intelligences (1983) suggests that human cognitive competence is best described as a set of abilities, talents, or mental skills. All human beings possess each of these intelligences to some extent, but individuals differ in the levels of development and nature of their combination. The seven intelligences identified by Gardner are: verbal/linguistic, logical/mathematical, musical, visual/spatial, bodily/kinesthetic, interpersonal, and intrapersonal. Applying this theory to teaching allows previously unrecognized talents and abilities related to all of these intelligences to be developed. The theory does not imply that every concept or skill needs to be taught in seven different ways, but it encourages teachers to incorporate a variety of activities into a lesson or unit. If teachers show students that there are different ways of learning by building on all of these intelligences, students find new and creative ways to learn. Each of these intelligences is reviewed, with a discussion of characteristic strengths, the application of the type of intelligence, sample assessment tools, and sample career options. (Contains 1 figure and 13 references.) (SLD)

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Pocket Guide

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Multiple Intelligences

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Pocket Guide to Multiple Intelligences

by

Linda J. Shirley

PREFACE

Under the leadership of researcher Dr. Howard Gardner, Harvard University's Project Zero was begun in 1979 to investigate human potential. It was from this project that Dr. Gardner developed the Theory of Multiple Intelligences described in his 1983 book, *Frames of Mind*. Gardner defines an intelligence as "the ability to solve problems, or to create products, that are valued within one or more cultural settings." Gardner believes that human cognitive competence is better described in terms of a set of abilities, talents, or mental skills which he calls intelligences. All normal human beings possess each of these intelligences to some extent; however, individuals differ in the levels of development and nature of their combination.

The seven intelligences identified by Dr. Gardner are: verbal/linguistic, logical/mathematical, musical, visual/spatial, bodily/kinesthetic, interpersonal, and intrapersonal.

Traditional teaching tends to recognize and reward those students who show strengths in verbal/linguistic and logical/mathematical intelligences. Students weak in these intelligences are often identified as slow learners or educationally at risk; however, when concepts are presented through the intelligences in which they are strong, they are as capable of learning as their traditionally successful peers. In addition, by applying this theory to teaching, previously unrecognized talents and abilities related to the other intelligences can be developed.

The theory does not imply that every concept, skill, or idea needs to be taught in seven different ways. In fact, most activities easily integrate one or more of the intelligences. However, it encourages teachers to incorporate a variety of activities within a lesson, a unit, and throughout the semester so that all students, but especially those who are at risk, have increased chances for school success. When educators show students that there are different ways of learning by building upon all of the intelligences, students find new and creative ways to solve problems, achieve success, and become lifelong learners.

MAIN IDEAS FROM THE THEORY OF MULTIPLE INTELLIGENCES

1. **Every person has all seven intelligences.** Even though each person has all seven intelligences, they are developed in varying degrees of functioning in each individual. Most people have some intelligences that are highly developed, others that are moderately developed, and still others relatively underdeveloped.

2. **Most people can develop each of the seven intelligences to a level of competency.** Barring disease and injury, it is believed that given adequate and appropriate encouragement, enrichment, and instruction, all seven intelligences can be developed to a level of competency in all human beings.

3. **Intelligences tend to work together in complex ways.** Intelligences rarely work in isolation but usually interact with each other. For the purpose of studying MI Theory, the intelligences have been singled out in order to examine their distinct features, but in reality they perform in an integrated process.

4. **There are many ways to be smart within each intelligence.** Each intelligence offers a range and variety of ways for persons to excel. For example, a person with a high degree of logical/mathematical intelligence may struggle with calculus but be extremely proficient in the logic required for computer programming. Another person may be illiterate yet be considered highly verbal because of his/her use of the oral language and storytelling ability.

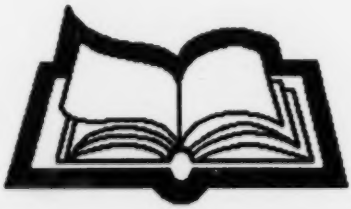
5. **Each intelligence meets eight criteria identified by Dr. Howard Gardner.** More than seven intelligences may be discovered as further study is conducted. However, these original seven intelligences all share common characteristics: the potential of isolation by brain damage; the occurrence of savants, prodigies, and other exceptional people; a distinctive developmental history with a set of end-state performances; an evolutionary history that can be traced; support from psychometric findings; support from experimental psychological tasks; a core or set of operations; and the potential for encoding in a symbol system.

VERBAL/LINGUISTIC INTELLIGENCE

General Description. The verbal/linguistic intelligence focuses on the ability to use both oral and written language fluently. People strong in this intelligence are able to manipulate the structure, sounds, and semantics of language with ease and comfort. This sensitivity to language, meanings, and the relationships among words enable the verbal/linguistic intelligent person to communicate effectively.

Characteristic Strengths. People who are strong in verbal/linguistic intelligence think in words. They love reading, writing, telling stories, and playing word games.

Application. In the classroom or other learning environment, students strong in verbal/linguistic intelligence need activities which involve books, tapes, writing tools, paper, diaries, dialogue, discussion, debate, and stories to make their learning come alive. In other words, if a "word smart" student is asked to read about it, write about it, talk about it, or listen to it, the student will have a greater chance to experience success in the learning process through a language-rich environment. *Read about it, write about it, and talk about it* are instructional strategies that the student strong in the verbal/linguistic intelligence finds interesting.



Sample Assessment Tools

- interviews
- essays
- debates

Sample Career Options

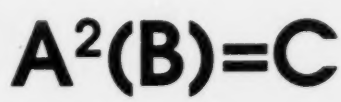
- author
- librarian
- radio/television personality
- journalist
- speech pathologist
- speaker
- attorney
- actor/actress
- salesperson
- teacher
- politician
- religious leader

LOGICAL/MATHEMATICAL INTELLIGENCE

General Description. The logical/mathematical intelligence is the ability to use abstract thought, precision, deductive/inductive reasoning, counting, organization, and logical structure. The person strong in this intelligence is able to solve abstract problems and understands complex relationships found in mathematics and in the scientific process.

Characteristic Strengths. People who are strong in logical/mathematical intelligence think by reasoning. They like experimenting, figuring things out logically, questioning, calculating, predicting, and estimating. They enjoy exploring things in the classroom as they think about them.

Application. A classroom or other learning environment with plenty of opportunities for students to use manipulatives and go on field trips will challenge and excite the learner who is strong in the logical/mathematical intelligence. Phrases such as *compare and/or contrast these, quantify this, conceptualize this, and figure this out,* peak the interest of the students strong in the logical/mathematical intelligence.



Sample Assessment Tools

- observation checklist
- T-charts
- statistical graph

Sample Career Options

- engineer
- mathematician
- physicist
- inventor
- banker
- computer programmer
- purchasing agent
- underwriter
- accountant
- auditor
- bookkeeper
- technician

MUSICAL INTELLIGENCE

General Description. The musical intelligence is evident by sensitivity to pitch, rhythm, timbre, tone, color, and the emotional power and complex organization of music and the sounds in one's environment. The person strong in this intelligence has the ability to perceive, discriminate, express, and transform all aspects of music and environmental sounds.

Characteristic Strengths. People who are strong in musical intelligence think in rhythms and melodies. They make vital links and connections for learning through singing, whistling, tapping their feet and/or hands, listening, and humming.

Application. A classroom or other learning environment that engages students in sing-along time, makes trips to concerts, offers opportunities for playing musical instruments, and plays music in the background is a musically enriched classroom environment. A teacher can relate well to the students strong in the musical intelligence by asking them to *sing it, rap it, listen to it.*

Sample Assessment Tools

- original songs, raps
- audiotapes
- poems, cheers

Sample Career Options

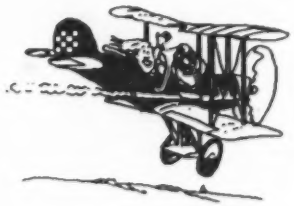
- disc jockey
- musician
- instrument maker
- piano tuner
- music therapist
- composer
- singer
- dancer
- sound engineer
- conductor
- choral director

VISUAL/SPATIAL INTELLIGENCE

General Description. The visual/spatial intelligence is the capacity to perceive the world in mental images—the ability to see form, color, shape, and texture in the mind's eye. Through keen observation and visual thinking, one can recreate visual experiences.

Characteristic Strengths. The visual/spatial intelligent person thinks in pictures and images. Designing, drawing, visualizing, and doodling are important tools in the development of imagination and creativity.

Application. In the visual/spatial classroom or other learning environment, one will find art materials, maps, videos, cameras, movies, slides, illustrated books, mazes, and puzzles. Phrases such as *see it, draw it, can you visualize this, and draw a mindmap explaining this*, capture the attention of the visual/spatial intelligent person.



Sample Assessment Tools

- construct a model
- Venn diagrams
- sketches

Sample Career Options

- sculptor
- sailor
- artist
- designer
- engineer
- painter
- architect
- layout editor
- photographer
- art teacher
- cartographer
- pilot

BODILY/KINESTHETIC INTELLIGENCE

General Description. The bodily/kinesthetic intelligence relies on the whole body to express ideas and feelings and the hands to produce or transform things. Physical skills that are specific to this intelligence include coordination, balance, dexterity, strength, flexibility, and speed.

Characteristic Strengths. People who are strong in this intelligence think by using body sensations such as dancing, running, jumping, building, touching, and gesturing.

Application. In the classroom or other learning environment, students strong in bodily/kinesthetic intelligence need to participate in role-playing, drama, and movement. They thrive on hands-on learning activities, physical games, and opportunities to build or make things. They respond well to instructional strategies that ask them to *build it, act it out, and touch it.* A classroom filled with manipulatives, building tools and materials, and sports equipment will enhance the bodily/kinesthetic learner.

Sample Assessment Tools

- performance
- mime
- demonstrations

Sample Career Options

- physical therapist
- recreational worker
- farmer
- actor/actress
- carpenter
- craftsperson
- dancer
- physical education teacher
- auto mechanic
- jeweler
- athlete
- juggler

INTERPERSONAL INTELLIGENCE

General Description. The interpersonal intelligence involves the ability to perceive and discriminate the feelings, moods, intentions, and motivations of other people. People who are strong in this intelligence seem to be able to easily read other people's facial expressions, voice, and gestures and then interpret those actions with appropriate responses.

Characteristic Strengths. People who exhibit a strength in interpersonal intelligence do their best thinking by discussing ideas with others. They are the students who love cooperative learning groups because this activity allows them to bounce ideas off others. They love to lead, organize, relate, mediate, and party with others.

Application. A classroom or other learning environment that encourages students to interact through board games, cooperative learning groups, clubs, and community events will be the classroom that relates well to these students. Persons strong in interpersonal intelligence also enjoy teaching others and collaborating with others. Instructional strategies that ask students to *talk, share, cooperate, or collaborate* are effective with these learners.

Sample Assessment Tools

- group projects
- teaching a lesson
- interviews

Sample Career Options

- personnel worker
- arbitrator
- sociologist
- school principal
- nurse
- public relations
- salesperson
- travel agent
- social director
- counselor
- politician
- teacher

INTRAPERSONAL INTELLIGENCE

General Description. The ability to know oneself and to act adaptively is the mark of the person who has strong intrapersonal intelligence. This intelligence allows one to accurately assess personal strengths and weaknesses; perceive inner moods, motivations, temperaments, and desires; and practice self-discipline.

Characteristic Strengths. Persons strong in intrapersonal intelligence are reflective in their thinking. They enjoy setting personal goals, meditating, and daydreaming. Alone time for them is a must.

Application. A classroom or other learning environment that allows students to work on projects and/or assignments that permit self-pacing and choice works well for persons strong in this intelligence. They connect well to instructional strategies that relate to their own personal life, such as *recall about a time in your life when, imagine how things might be if, think about the next ten years and describe.*

Sample Assessment Tools

- journals
- open-ended statements
- personal goals charts

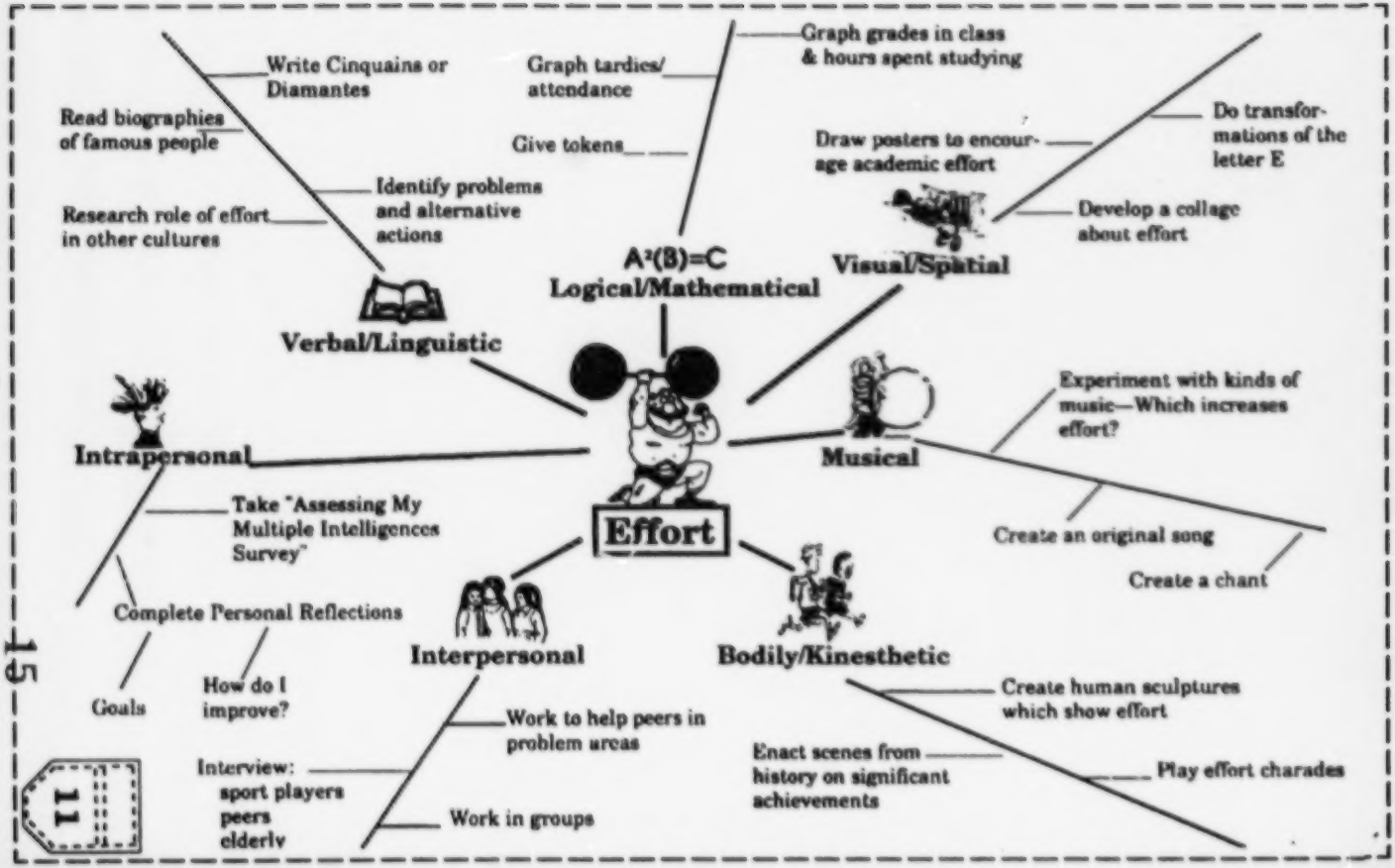
Sample Career Options

- clergyman
- counselor
- theologian
- entrepreneur
- psychology teacher
- psychologist
- researcher
- author
- inventor
- philosopher
- psychoanalyst

ACTIVITIES FOR INCREASING STUDENT EFFORT USING MULTIPLE INTELLIGENCES

Learners at all levels, in different subject areas, and in a variety of situations can benefit from the knowledge that *effort plays a key role in success*. This concept of effort is depicted in the mindmap on the following page. A mindmap, one of several graphic organizers (e.g., T-charts, webs, concept maps), is a technique that helps the brain make connections. It uses pictures, words, colors, and lines to help generate and recall information by focusing on the flow and function of association. The "Effort Mindmap" illustrates activities from each of the seven intelligences which can be implemented to introduce, reinforce, and deepen the learner's understanding of what effort is.

For example, in learning about effort using the verbal/linguistic intelligence, one might read biographies of famous people who have succeeded in life by exhibiting effort (i.e., George Washington Carver, Helen Keller, Abraham Lincoln, Wilma Rudolph, and others). From the perspective of intrapersonal intelligence, one could complete personal reflections stating goals and steps towards improvement of effort. Interviewing peers in the school, elderly in the family, adults in the neighborhood, or leaders in the community can provide learners with opportunities to use their interpersonal intelligence. The bodily/kinesthetic intelligence can be tapped into by asking students to form human sculptures or to act out charades which demonstrate effort. Creating original songs, chants, or raps which feature effort can reinforce the musical intelligence. Graphing student grades and hours spent in studying, then analyzing the findings, can be an excellent activity to highlight the logical/mathematical intelligence. The visual/spatial intelligent learners can develop a collage to help them recall how effort helps individuals succeed.


Effort
Verbal/Linguistic
Write Cinquains or Diamantes
Read biographies of famous people
Identify problems and alternative actions
Research role of effort in other cultures
Logical/Mathematical
A²(B)=C
Graph grades in class & hours spent studying
Graph tardies/ attendance
Give tokens
Visual/Spatial
Draw posters to encourage academic effort
Do transformations of the letter E
Develop a collage about effort
Intrapersonal
Take "Assessing My Multiple Intelligences Survey"
Complete Personal Reflections
Goals
How do I improve?
Musical
Experiment with kinds of music—Which increases effort?
Create an original song
Create a chant
Interpersonal
Work to help peers in problem areas
Interview: sport players peers elderly
Work in groups
Bodily/Kinesthetic
Create human sculptures which show effort
Enact scenes from history on significant achievements
Play effort charades

BENEFITS OF USING MULTIPLE INTELLIGENCES

Applying the Theory of Multiple Intelligences in any learning environment enriches the lives of both learners and leaders because it provides a wide variety of options. It also offers opportunities for students to take more responsibility for their learning and for a teacher to become a facilitator of learning rather than the sole provider of knowledge.

Benefits for Learners and Leaders

- Allows each learner to be recognized and rewarded for his/her special strengths.
- Provides opportunities for learners to develop skills and abilities in intelligences that are less developed.
- Reduces the chances of boredom because of the variety of activities that can be planned and implemented.
- Offers options for active learning to students who may have been struggling in traditional settings.
- Provides a teaching/learning methodology that works for all ages.
- Allows for students to assume responsibility for their own learning.
- Reduces the pressure on teachers and other youth leaders of being in control of all learning.

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SUGGESTED RESOURCES

MI Bag —A resource kit containing a variety of hands-on activities designed to complement a teacher workshop introducing Multiple Intelligences. [National Dropout Prevention Center, Clemson University, 205 Martin Street, Clemson, SC 29634-0726; telephone 864-656-2599; FAX 864-656-0136. Price: $95 per bag.]

- *Assessing My Multiple Intelligences*—An instrument designed for participants to quickly complete a personal assessment of their strengths in the multiple intelligences.*
- *Our Gifted Friends*—An introductory icebreaker for participants to learn about each other in relation to the seven intelligences.*
- *MI Game*—An innovative, cooperative learning game for educators to explore multiple ways of teaching any concept or skill. It is an excellent feedback tool for the workshop facilitator to monitor the participants' understanding and application of the Theory of Multiple Intelligences.*
- *MI Bingo*—Using a familiar game format, this activity provides opportunities for faculty to interact with each other in order to discover the creative teaching lessons already being used in the classroom.*
- Twenty-five (25) copies of the *Pocket Guide to Multiple Intelligences.*
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Common Miracles: The New American Revolution in Learning— This hour-long video reveals how students are able to uncover their special strengths and become eager learners. [Skylight Training and Publishing, Inc., 800-348-4474. Price: $19.98 + S&H]

The Multiple Intelligences Series—This series of videotapes and books introduces the Theory of Multiple Intelligences and shows how teachers or youth leaders can create more opportunities for learning by identifying and nurturing the intelligences present in students. [Association for Supervision and Curriculum Development, 800-933-2723. Price: $680 members, $780 nonmembers]

How are Kids Smart? Multiple Intelligences in the Classroom— This teachers' version video on MI features Dr. Howard Gardner and teachers and students of the Fuller Elementary School MI program in Gloucester, MA. [National Professional Resources, Inc., 800-453-7461. Price: $59 +$5 S&H.]

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